

MECHANICS' MAGAZINE,

AND

REGISTER OF INVENTIONS AND IMPROVEMENTS.

VOLUME IV.]

FOR THE WEEK ENDING NOVEMBER 22, 1834.

[NUMBER 5.]

Application of Caoutchouc, or Indian Rubber, to Ropes used on Railroads, &c.

It is with great pleasure that we insert the following from our esteemed friend, and we solicit the attention of all who are engaged in the construction of railroads to its contents.

We have no room at present for remarks, but shall recur shortly to the subject; in the mean time, shall be happy to learn the opinion of some of our scientific correspondents.—[Ed. M. M.]

To the Editor of the Mechanics' Magazine:

My dear Sir,—Agreeably to your request, I now give you the particulars of my patent for the application of caoutchouc, or Indian rubber, in solution, to ropes used on the inclined planes of railroads, and shafts of mines.

My specification states that the ropes as now used on the inclined planes of railroads, by being exposed to the weather, are liable to decay and become rotten, as well as to great expansion and contraction, and that I propose to prevent such decay and variation in length, by covering said ropes, or the separate strands of which such ropes are composed, before being spun into ropes, or when so spun, but before being used, with caoutchouc, or India rubber, dissolved in the purified naphtha of coal tar, in Barbadoes tar, in petroleum, in sulphuric ether, in spirits of turpentine, or in such other substance as possesses the power or property of dissolving caoutchouc or India rubber, and permitting it to dry into its hard state without being clammy.

In announcing my improvement to the public, through the medium of your valuable Magazine, I trust to your kindness to offer such remarks on its utility to parties interested in railroads with inclined planes already made, as well as those now making, that, by its adoption, an immense annual expenditure for ropes would be saved, and the dread of their breaking entirely done away with, thereby affording perfect security to passen-

gers in passing inclined planes. Even the knowledge and conviction of that security may be the cause of constructing railroads with inclined planes in mountainous districts, where, without it, it would be looked on as impracticable.

Your's, truly,

PATRICK MACKIE, M. D.

29th October, 1834.

All communications may be addressed to you, or to your humble servant at the Albany Hotel, No. 31 Courtlandt st., New-York.

Influence of the Moon on the Weather; Substance of a Paper read at the Natural History Society of Geneva, in October, 1833, by F. MARCET.

On the question whether the moon has any influence over the weather or not, there are two opposite opinions; the great mass of the people, including sailors, boatmen, and most practical farmers, entertain no doubt whatever of the influence of the moon; whether the change of weather at the lunar phases will be from fair to foul, or from foul to fair, none of them pretend to decide beforehand, but most of them think, that at the new and full moon there is generally a change of some kind. On the other hand, philosophers, astronomers, and the learned in general, attribute this opinion altogether to popular prejudice. Finding no reason, in the nature of atmospheric tides, for believing that changes should take place on one day of the lunation rather than another, they consider the popular opinion to be unsupported by any extended series of correct observation.

In the *Annuaire* for 1833, Arago, the learned editor, has presented the result of the observations of Schubler, in Germany, during 28 years, or 348 synodic revolutions of the moon. During this period of 348 new moons, &c. the number of rainy days was as follows:

It rained on the day of the new moon	148 times.
Do. do. first quarter	156 “
Do. do. full moon	162 “
Do. do. last quarter	130 “

The observations of Schubler were made, during 8 years, at Munich, 4 years at Stuttgard, and 16 years at Augsburg.

As a good meteorological register has long been kept at Geneva, the author thought it would be interesting to ascertain from the ta-

bles, (which have been carefully published in the Bibliotheque of that city,) whether, during a period of 34 years, viz. from 1800 to 1833, any inferences could be drawn for or against the popular opinion on the subject of lunar influence. He finds, during these 34 years, the number of rainy days and the quantity of water fallen to be as follows:

	Rainy days.	Water fallen.
At the New moon,	123	432 lines.
First quarter,	122	429.6 "
Full moon,	132	415.7 "
Last quarter,	128	368.6 "
The whole period,	3,657	968 in. 9.3 "

Thus it appears, that during 34 years, or 12,419 days, comprehending 420 synodic revolutions of the moon, there have been 3,657 rainy days. This gives, for every 100 days, 29.45 rainy days, and we find, that for every 100 days of new moon, 29.29 have been rainy.

Do. do. first quarter,	29.05	do. do.
Do. do. full moon,	31.43	do. do.
Do. do. last quarter,	30.48	do. do.

Hence, it is evident, that during these 34 years at Geneva, the days of new moon and the days of the first quarter have been just about as liable to be rainy days as any other common day of the month, while the days of full moon and those of the last quarter have been *rather* more liable.

But although the days of full moon have been rather more frequently wet days than those of new moon, it does not follow that more water has fallen at full moon than at the change. The result of observation in that respect is as follows:

For every 100 days of new moon there fell	102.9 lines.
Do. do. first quarter, do.	102.3 "
Do. do. full moon, do.	90.0 "
Do. do. last quarter, do.	87.9 "

The average quantity for every 100 days is 93.6 lines, whence it appears, that at the new moon, the first quarter, and the full moon, more water has fallen than on common days; at the last quarter, less. The quantity fallen on the total of the lunar phases surpasses that on other days in the proportion of 98 to 93.6.

Another question is, whether a *change of weather* is more liable to happen on the four principal days of the lunar phases than on common days. But it must be decided what is meant by the term change of weather. This term should, the author thinks, be limited to a change from clear weather to rain, or from rain to clear weather, and not be understood to include, as some meteorologists make it, all changes, such as that from calm to windy, or from clear to cloudy, &c. As the author accepts it, the weather must have been steady during two days at least; that is, that the weather has been clear, or that it has rained more or less during two consecutive days. For example, a week has passed without rain; it rains on the eighth day; and on the ninth the weather is again fine. In this case, according to the author's definition, there is no change of

weather. So, also, if it has rained during five successive days, the sixth and the seventh must be clear, in order to constitute a change of weather. This may be arbitrary, but at least it is not vague, and if practised it will prevent, in the balancing of calculations, any leaning to a favorite hypothesis. To avoid another error, into which some have fallen, the author marks no change as occurring on lunar phases but those which take place on the very day, and never those which may happen on the evening before or on the next day.

With these precautions he finds that during the 34 years, or 12,419 days, there have been 1458 changes of weather. Of this number, 105 have taken place at the epoch of the two principal lunar phases, viz., 54 at the new moon, and 51 at the full moon. Now the whole number of principal phases during the 34 years is 840, therefore,

As $12419 : 849 :: 1458 : 98.6$, the number of changes which would have taken place at new and full moon, had these lunar phases had no more than the share of common days, but, instead of which, the number was 105.

Of the 54 changes at new moon, 32 were from rain to fine weather, and 22 from fine weather to rain. Of the 51 at full moon 31 were from rain to clear, and 20 from clear to rain. Thus at the new and full moon, the changes to fine weather are to those to rain as 63 to 42.

Having thus proved that the epoch of new and full moon is not absolutely without some effect on the weather, the author examined whether this effect was confined to those very days, or extended to the day following. On the days following the new and full moon, there were 129 changes, instead of 98.6, which would have been the number had these shared the proportion only of common days.

With respect to the days of the first and last quarter, the changes on these were 96, which bring them nearly to the condition of common days.

It is thus shown from the tables, that the chance of a change at new and full moon, compared with the chance on ordinary days, is as 125 to 117, and that the chance on the day following these two phases, compared with the common days, is as 154 to 117.

Upon the whole, therefore, this examination lends some support to the vulgar opinion of the influence of new and full moon, but none whatever to any especial influence of the first and third quarters.

With respect to *barometrical pressure*, it is ascertained that out of the 1458 changes of weather, there were in 1073 cases a corresponding rise or fall of the barometer, according as the change was from rain to fair, or the contrary. This is nearly as 3 to 4. Of the 385 false indications of the barometer, 182 were on a change from rain to clear, and 203 on a change from clear to rain. Finally, of the 385 anomalies of the barometer, 17 were at full moon, and 10 only at new moon.—[Bib. Univ. Feb. 1834.]

LENGTH OF LIFE IN COMETS.—It being clear that an atmosphere is necessary to vegetable and to animal life, and it being pretty clear, as I think, that every planet and every comet is surrounded by an atmosphere, and that every planet and every comet enjoys as much of an atmosphere, in all situations, as is sufficient to preserve a moderate temperature for all its inhabitants, we are bound to believe that as those globes are obviously fitted to be the habitation of rational creatures, they are certainly inhabited.

What ideas are we to form concerning the rank of the several inhabitants of those globes, in the scale of intellectual beings? On this subject we have only to observe, that if the length of their several lives, or the extent of their intellectual attainments, be at all proportioned to the length of their years, or the magnitude of the globes they inhabit, many of them might regard us with pity. The comets are of various sizes, and their years from seventy-five of ours to five or six hundred. The comet of 1744 was about twenty-seven times the bulk of this globe. The planet Jupiter, whose year is equal to twelve of our years, is more than six hundred times the bulk of this globe.

When we speak of comets wandering to the distance of twelve thousand millions of miles from the sun, it may be objected that, at such a distance, they would certainly interfere with some other systems. But we are to consider that it appears, from correct observations, that the nearest fixed star must be at a greater distance from us than four hundred thousand times ninety-four millions of miles, which is the distance of the sun from the earth. Thus it appears that a comet must travel at least sixteen hundred times the distance mentioned, before it could arrive at the central space between our sun and the nearest luminary of another system. It will follow, that light must be above two thousand two hundred days in coming from the nearest fixed star.

Having ventured an opinion that every planet and every comet in our system is inhabited, we have only taken a very imperfect view of the astonishing works of the divine Architect. There are about three thousand fixed stars visible to the naked eye. Every one of those stars is doubtless a sun, and each of those suns affords light and heat to another system of worlds. Let us only suppose that each of those suns illuminates as many orbs as belong to our system. We shall state the number at two hundred, though it is believed that twice this number of comets, besides the planets, have already been discovered. This would give three

hundred thousand worlds. But three thousand is a small number, when compared with the whole number of stars that have been discovered. The relative places of fifty thousand stars have been determined, by the help of telescopes. Fifty thousand solar systems, each containing, at least, one hundred worlds. Five millions of worlds, all inhabited by rational beings. How do we seem to dwindle into littleness! How small, how few, are the ephemerals of this little globe, when compared with the countless myriads who inhabit five millions of worlds! All those worlds, and every one of their inhabitants, are under the constant care of the Divine Being. Not one of them is neglected. 'Great and marvellous' are his works. How terrible his power!! — [Scientific Tracts.]

TENACITY OF LIFE.—Edwards, a celebrated experimental physician of France, not long since deprived two Salamanders of their hearts, and then placed them in water of the same temperature, which had been deprived of air by boiling, and two others in air. One of the former died in eight hours, the other in nine, while those in the open air lived from twenty-four to twenty-six hours. By repetition the same results were presented, by which he infers that air, in comparison with water, has a superior vivifying influence upon the system of these animals, independently of its action by means of circulation and respiration.—[Ib.]

IMPORTANT INVENTION.—We have just seen the model of a vessel, constructed on the principle of a steam packet, propelled by paddles, but, from its peculiar mechanism, it completely supersedes the necessity of steam. The given power is communicated by four revolving sails, (gigot shape,) placed over the centre of the boat, which are acted upon by the wind from any point whatever, without in the least interrupting the progress of the vessel. The serious consequences often arising from the effects of sudden squalls are hereby completely obviated, from the accelerated horizontal action which the sails acquired, one counteracting the weight of the other in a direct ratio. This invention will also be of infinite utility in the construction of mills used in every description of manufacture. In fact, we deem it one of the most important discoveries of modern times. The inventor, Mr. John Willis, of whose talent and genius we have often spoken, intends taking out a patent for the discovery.—[Wexford Independent.]

ANNIVERSARY ADDRESS

Delivered before the American Institute of the City of New-York, at the Chatham street Chapel, October 9th, 1834, during the Seventh Annual Fair, by the Honorable HENRY BALDWIN, of Pennsylvania.

MR. PRESIDENT, AND GENTLEMEN OF THE INSTITUTE :

Fairs are interesting as an exhibition of the products of human labor, in those arts which are alike indispensable to private comfort and national prosperity ; the experience of all nations, who have held them, has through all time attested their good effects, in the incentives which public admiration never fails to excite in the artisan and mechanic, to renewed zeal, and to stretch every faculty of his mind and body to their utmost capacity in the fabrication of what gives pleasure to every one, and profit to himself.

The premiums distributed are, to the successful competitor, the public testimonials that he has made some useful contribution to the common stock worthy of the token of public gratitude, earned by his labor and skill.

The effects of a display and public exhibition of the various specimens of the articles of consumption, in the wide circle of society, promotes that competition between the fabricator and seller which never fails to benefit the consumer and purchaser.

To the young mechanic, who desires to avail himself of improvements in the practical sciences, or mechanical arts, they are the sources of profit and instruction, in taking from the labor of others, to his own appropriate occupation, the means of usefulness to the public and his own interest.

Mere spectators admire them as a splendid pageant, which captivates the eye by the brilliant effect of an exhibition in one view of the numerous and choicest productions of the useful and ornamental arts ; presenting in the aggregate a condensed display of the fruits of the native industry and skill of our countrymen and women, at the fireside, in the workshop, or the manufactory ; exemplifying the wants of society, with their means of supply from domestic sources.

They view with equal admiration its component items in detail, whether formed by the hands of the man, the child, or the woman, by the machinery of a cambric needle, or the mighty power of the steam engine, conducted by the science of the engineer and the labor of the hardy fireman ; the materials of its composition, the skill with which they have been fabricated, the combined effect of both, in beauty of appearance, and substantial value for utility or ornament, equally strike the view, and impress the mind with pleasure.

Fairs are also the practical illustrations of the operations of government, the nature of its institutions, and the course of legislation upon those interests which have been the favored objects of its guardianship ; testing their adaptation to the products of the soil, and the inclination of the people, in the results of labor and the material afforded.

They are also epochs which denote the state of the arts, and the nation, at the different periods of its history ; affording authentic historical facts recorded in its annals, handed down by tradition, or evidenced by some relic of former times, preserved to show how their ancestors lived, and the relative condition of the country during the lapse of time.

And as every nation in the civilized world has some rival in the arts, in institutions of government, and systems of policy, each is emulous to excel the other, and to make the most favorable display of its resources, so as to impress upon all who witness them their wisdom and successful results. All these considerations combine to give to the fairs and exhibitions of the products of labor and skill a high degree of interest, pleasure, and utility. But in this country, fairs like the one we have witnessed are calculated to inspire the mind with higher and stronger emotions. This exhibition of the varied productions of native industry is not merely the developement of the gradual progress of an infant nation, in those arts which alike contribute to the increase of private happiness, and the expansion of all the sources of national greatness.

It is more like the unfoldings of a new creation, which open to the vision with doubts of their reality, and burst upon the mind with all the charms of an enchanted scene. If we trusted to the dictates of reason, alone, and founded our judgment on what appeared to be the accustomed order of improvement in other countries, we should credit no man's assertion that many of the proudest specimens displayed were the products of arts introduced among us as but of yesterday.

And if there could be a Fair, which would cease to be impressive by its brilliancy as a pageant, and to interest the spectators by the quality of the articles which compose it, as a display of merchandise for sale or exchange, it is the one which the labors of the Institute have presented to our examination. Its zest is as a moral spectacle in the visible tangible evidence of the capacity of the country to fabricate all the articles of necessity and comfort requisite to the supply of the wants of the people, and many of the enjoyments of luxury ; it testifies to the senses and the understanding, that in our internal resources are found the materials, and in the skill, ingenuity, and industry of our citizens, the abundant assurance, of their ability to meet all the requisitions of society from domestic sources, without imposing any burthen on the pursuits or interest of any of its members.

It is on a small scale what the country is on a great one ; the whole nation is one expanded fair, in every part of which are exhibited the specimens of the mechanical arts and manufacturing skill, and their salutary fruits. There is no part, however remote, that does not profit by the invention of the cotton gin ; and the improved application of steam power, more than it, contributes to the support of government.

The whole revenue from impost does not equal the annual saving in the production and transportation of the crops of the south and west, and the expenses of travelling consequent upon these improvements ; and no American, who in the Fairs of Europe has examined the specimens of the arts of the country which they have exhibited, will be humbled in any one feeling of national pride, in viewing the Fairs of the American Institute. What has been seen abroad is the improvement of ages upon established arts ; what is seen here is the creation of a few years ; and even if he should award the premium to the foreign article, the wonder is not that there should be a difference, but that there should be a competition.

If we look at these things with American feelings, they excite the swelling emotions of patriotism at what we have attained, rather than humiliation at the space we have left between the attainments of the different countries of Europe and our own ; the indications of the last thirty years justify the confident belief that in the next we shall be as far in advance of the old world, in every branch of industry, which makes a nation great, and the people happy, as we have been behind them even in our infancy.

It must be remembered that it is not sixty years since the people of this country composed thirteen colonies, which had no political connection with each other, or any bond of union but their common dependence upon the crown of Great Britain ; that it is not fifty years since the first institution of a government, which had the physical power to promote the progress of the useful arts, to encourage manufactures, or to protect either from the long settled policy of other governments, and only ten years since the powers of the government have been exerted in the adoption of any great system of protecting policy.

This Fair and the condition of the country are the commentaries on the American system, which has enabled man to avail himself of the bounties of Providence, under the protection of a government which secures from foreign invasion the fruits of the labor of those who sustain it, in the adoption of a system of policy which fulfils all the objects of its institution.

It is under its auspices that the healing effects of a free government are exemplified, that its resources are developed, and its independence consummated. We were always a free people ; we became an independent people by the valor of the heroes, and wisdom of the patriots, of the revolution ; but neither freedom nor independence made us a happy or a great people.

This remained to be done by the successful pursuits of agriculture, the arts, manufactures, and commerce ; the farmer, the mechanic, and the merchant, have made us a great nation by the combined results of production, fabrication, and distribution, from their humblest beginnings to the greatest perfection which science, industry, and the arts, can give them.

The nation has its anniversary, and parties their days of celebrating political triumphs ; and why may not mechanics have their jubilee ? and why may not any man in the nation, be his station what it may, join in the triumph and partake the gala.

Public opinion justly excludes the incumbent of a judicial office from all those assemblies into which political excitement enters ; but it would be hard indeed, if, when one meets with his associates of other days, with whom he has acted in a great and common cause in all the harmony of private confidence, and under a common impulse to promote the public good, and now sees in the happiness of all around them, and the boundless extent of the healing and blessings of a system which protects the whole industry of the country, it should not be permitted to him to hold a public conference with those friends and associates in the public and private efforts which led to its adoption. I cannot look upon the old

members of the Mercantile Society of New-York, and of the present Institute, without recollections which I am sure they indulge with as much pleasure as myself, nor contemplate the Fair which they have prepared, without referring to that system of which it is the legitimate and acknowledged offspring, and the part which individually and attentively they acted in trying times.

It is at the mechanics' jubilee that their importance to society is estimated, and the mighty effects of their industry are displayed; it is here that they can show their victory over foreign policy, and that in fighting the battles of the producer and consumer, they have achieved a moral triumph, harmless to friends, country, or any of its interests; and after a few more such exhibitions of mechanical and manufacturing skill, poetry and public opinion will alike declare,

"That the warrior's name,
Tho' pealed and chimed on all the tongues of fame,
Sounds less harmonious to the grateful mind
Than his who fashions and improves mankind."

It is many years since you associated for the furtherance of a great cause, which you deemed of vital importance to the welfare of the whole community; it was during that period of gloom and despondency which overshadowed the land after the late war, that you formed a voluntary society for the promotion of American industry, and its encouragement in all its great branches. You advocated a system of national policy which would revive the commerce and protect the navigation of the country, by the same measures which should sustain the existing manufacturing establishments, and give to new ones an assurance that they should not remain exposed to prostration by foreign policy, regulations, or laws.

Your conduct was not regulated by any fears that the prosperity of any branch of national industry would injuriously affect any other; in calling on the National Legislature to rescue the commerce, the navigation, and the manufactures of the country, from the spirit, the commercial policy of other nations, which had enabled the merchant, the ship owner, and manufacturer, abroad, to seize and retain the fabrication and distribution of the articles of consumption. You disavowed the belief, that the theatre which was open for the display of industry, was large enough only for two of its great pursuits. You declared that the merchant and the farmer ought to make common cause with the mechanic and the manufacturer; that the field of their operations was the whole Union, in which each could be successful, not only without impairing the profits of the other, but with the certainty of mutual benefits, if the government would act in the common cause. You did not yield to the too prevalent apprehension that the state of the country was not adapted to the policy of protecting manufactures by legislation; that it would tend to destroy the revenue, commerce, agriculture, and morals of the nation, or operate as a tax on all for the emolument of the few. You went farther: as members of the Mercantile Society, you expressed an opinion, and made an assertion, in relation to the consequences of the adoption of a protective system, which proposed to embrace within its provisions all the leading articles of manufacturing industry, to the supply of which the capacity of the country was deemed fully adequate, that cannot be unnoticed on this occasion. (See Appendix, A.) After having, during the operation of the then existing system, for five years examined its practical results on the interests of the country, it was your deliberate opinion, that where the domestic article has superseded the foreign in our market, the consumer is supplied with a better article at the same price, and that the prohibitory duties on East India cottons of the coarsest description had benefitted commerce by giving increased employment to shipping. You also stated that the price of those manufactures, on the importation of which the highest duties had been imposed, had fallen in price from twenty to fifty per cent.; that the consumption of cotton in American manufactories tended to enhance the market value to those who raised it, from one to two cents a pound; and that the protection of manufactures on a comprehensive scale, as proposed fourteen years ago, would not be injurious to commerce or diminish the value of any article of domestic produce exported. These things are not recalled to recollection for any other purpose than in their connection with the present occasion, as strongly indicating the difference between opinions founded on facts, and practical results, and those which rest on theory, abstract principles, or that political science, the professors of which may believe contains safer maxims and rules of conduct than those which have been consecrated by the test of time and experience in the connection of cause and effect.

To the members of this Institute, it must afford a subject of high gratification to be able to thus display to their fellow citizens this convincing conclusive verification of their past opinions, and the entire confirmation of all the declarations they had made of the benefits which would result to the whole community, by the adoption of a system of protection which they have so long cherished, in the perfect conviction that, when fully developed, and equally applied to the whole industry of the nation, its beneficent effects for the future, would justify their most sanguine anticipations, founded on the illustrations of the past.

Every article in this exhibition is as a living witness present to testify, to submit to any test or scrutiny however severe, and to be examined and cross-examined; with whatever preconceived opinions, they will not shrink from the comparison with the productions of other countries, as specimens of the progress of the mechanical arts, and an exemplification of the entire success of that system which sustained them in their infancy; and which in

their turn now sustain the system, by the most irrefragable evidence of its efficiency, wisdom, and justice. If we turn from the scene before us, to that which is afforded by a view of this great emporium of the commerce, this market and ware-house of a new world, the same appearance meets the eye, and the same pleasing subjects of contemplation are impressed upon the mind. Turn where we will, the progress of improvement is visible, every pursuit of industry has been in active and profitable operation, each contributing to swell the tide of prosperity which flows throughout. The shipping, which navigates your waters, and thickens around your wharves, and the customers who crowd to your market, attest the prosperity of your commerce, as plainly as your work-shops and this exhibition indicate the flourishing state of manufactures, while their combined influence is apparent and benignly felt in the whole range of their diversified operations.

The personal observation of all of us, in whatever part of the country it has been made, teaches, that no class of society profit more by the thrift of commerce and manufactures than the freeholder in the site of their pursuits and its vicinity, and the farmer who supplies their wants from the produce of his soil and labor. We have all witnessed the progress and decline of improvement, in towns, cities, and the surrounding country; but no one has seen either flourish, while its manufactures and commerce were declining decay, while their pursuits were profitable, or the success of one interest obstructing the growth of any other. In taking a still wider range, and embracing the results of the industry of the people, in all their occupations through the Union, under the operation of the system of policy which has prevailed for the last ten years, we find abundant evidence of general and progressive improvement in the condition of the country, the expansion of all its resources, the increase of domestic exports and tonnage, which are the unerring standards of general prosperity.

The increased value of the exports of domestic produce in 1833 over those of 1823 is, in the products of the sea \$744,000, of the forest \$488,000, of agriculture \$17,697,000, of manufactures \$3,600,000, of domestic tonnage employed in the foreign trade, entering and departing, 334,000 tons. (See Appendix, F.)

Such is the growing state of the country, under the operation of a general system of protecting duties during ten years, as exhibited in the public documents; surely, these facts must present to every citizen of this republic true cause of congratulation, in which none can more cordially join than the members of this Institute, who through good and bad report have never faltered in their efforts to bring about that state of things which all experience has taught to be the best calculated to secure permanent prosperity to all parts and interests of the nation. Increased products from the land, the forest, and the sea, steady and uninterrupted advance in all the mechanical arts and manufacturing operations, employed in the fabrication for domestic consumption of all the materials furnished from every source, yielding a surplus for exportation in exchange for what is profitable to import; with a commerce daily swelling in all the employments of transportation, in the foreign, coasting, and internal trade. This happy condition is one which must excite one universal feeling of exultation, which may be freely indulged on an occasion like the present. These annual exhibitions are not prepared to celebrate the triumph of a party, or to recall the remembrance of past excitement between one class of our citizens and another, on the interesting questions of national policy, which have heretofore agitated the country. They are in miniature what the official statements from the Treasury are on a great scale: the one displays the state of the nation in the useful arts, by representing in detail the varied productions of mechanical labor and skill; the other, the aggregate fruits of labor in all its employments, so far as they become materials of commerce for exportation. Both afford useful matter for reflection: they teach us that the legislative encouragement of manufactures is not attended with those pernicious consequences which many had predicted; that discriminating duties on foreign productions are as indispensable to infuse life and activity into the other branches of industry, as those on tonnage to sustain navigation; and that the same system of policy which sustained American commerce in its infancy, has been happily applied to its manufactures, and produced the same beneficial results on the country at large.

Look to what part we will, we see the extension of improvement. Those parts which have been the longest settled, far from exhibiting the symptoms of declining age, are still growing in all the vigor of youth, while they are planting their colonies in what a few years since was a wilderness, where no white man lived save the Indian trader, or the scattered remnants of the Canadian settlers; new States are now assuming their equal station in the confederacy, and rising to greatness with a rapidity unknown in the history of nations.

Equally progressive, though with unequal steps, the old States and the new are increasing in population, agriculture, commerce, and manufactures; yet, widely as they are separated, varied as are their productions, their occupations, habits, and local institutions, they are but the component parts of one great whole, united by one common interest, which brings to the commercial emporium the buyer and seller, the producer and the consumer, the merchant and his customers—all profiting by purchase or exchange, and each contributing to the thrift of the other.

If there is any one class of society to whom this state of things is more profitable than another, it is to that which is employed in the pursuits of commerce; all others are dependent upon them for the sale and exchange of their surplus productions, and their distribution and consumption in distant or foreign markets. Whatever increases this surplus for distribution through the various parts of our country, or exportation, is the creation of new materials for com-

merce, and enlarged profits in navigation; and whatever increases the profits of those who produce or fabricate articles for sale, exchange, or freight, makes them the more valuable customers for the merchant. Need it be asked, whether the exportation of near four millions of domestic manufactures is in aid of the operations of commerce, or whether the transportation of cotton from the place of production to the place of its domestic manufacture, from thence to the consumers, and the export of two millions and a half of cotton goods to foreign markets, contributes more to reward commercial enterprise than the importation of the same amount of foreign manufactures? Nor need an appeal be made to any one present, whether his property consists in lands, or lots in town or country, here or any where within the wide boundaries of our republic, in merchandise, in shipping, in stocks, or other securities—if he believes that the profits which any of the mechanics or manufacturers may have acquired in their various pursuits have been at his expense. If every branch of protected industry which has produced the various articles which compose this exhibition should be displaced by foreign competition, is there any one who hears me who would not feel its effects with regret; nay, if any one item in this splendid display should be thrust from the pale of protection, and no specimen of its domestic manufacture be found at some future anniversary of this Institute, is there any man whose feelings it would gratify, or whose interests it would advance?

We have all witnessed the expansion and contraction of the great interests of the country; and though we may not all agree in opinion as to the causes which have produced the varying results, we cannot disagree in the fact, that within the last two years there has been a marked and decided change in its general state, and that it has been from the worse to the better. That the national legislature has acted on its most interesting concerns in the regulation of its commercial intercourse, and the efficient protection of its industry, by increasing the duties on imports, and disencumbering the pursuits of our citizens from the burthens and obstructions placed upon them by foreign governments. The laws passed during this period were of no doubtful character; their provisions have borne directly on every interest, and cannot have failed to impress their effects on every thing they regulated. Our personal knowledge of the condition of the country, from the close of the late war till 1823, and its exhibition in the public documents, presents the recollection of a gloomy disheartening scene, which no friend to its welfare would not be unwilling to witness again. Since then there has been a "transition from gloom to glory," in one great department of industry, and from adversity to prosperity in all.

As the effects of legislation became unfolded in their operations, this transition became visible in the field, the town, the workshop, the manufactory, the river, the seaport, and on the ocean; life, activity, and success, were infused into all occupations; each succeeding year expanded the old, and developed new sources of wealth as incentives to labor and rewards to industry. And while foreign manufactures were gradually disappearing in our markets, domestic ones supplied their place to the advantage of the consumer. Whether this change was brought about by the protecting policy of these laws, or some invisible intangible principle, not before operative or perceptible, produced these effects without or in spite of legislation—whether the benefits which have gone hand in hand, or closely followed the action of the laws, are the direct emanations from their provisions, as the effects of the moving cause, or have been elicited by the collision of legislation with the doctrine of a political prince,—matters but little to those who are anxious only to discover and follow the road to private and public happiness.

The advocates of a protecting system may trace its effects in the altered condition of things since its development; its opponents may believe that our progression has been owing to other more operative causes, existing in the practical application of the principles of political economy; but when the fact is conceded, that all the interests of the nation are in a healthy thriving condition, it is also an admission, that the system has at least been harmless in its operation. Whether a greater degree of success would have rewarded the labor of the people without it, is matter of opinion and argument. Those who are impressed with this conviction, however, would scarcely venture to hazard their own interests by an endeavor to so modify the existing system as to withdraw the protection it affords to that branch of industry in which they are employed, and leave it to regulate itself by the rules of the science against the commercial regulations and policy of foreign nations. They would surely not expect that those who hail the protecting system as the source of our greatest blessings, will act on the principles urged in argument, but discarded in practice. They at least must be permitted to await the result of a practical experiment upon an unprotected, unregulated commerce with foreign nations, and the navigation of the country carried on without discriminating duties on tonnage, and merchandise, or reciprocity, before they can consent to put their own interest in jeopardy. By disavowing their opinions, and the policy under which it flourishes, or in following abstract principles, which neither the lessons of experience or the instructive facts before us can sanction, the substance may be lost by the pursuit of the shadow. If we are not content with our present condition, and seek to improve it by the adoption of some other system, we ought to have some assurance at least of indemnity.

The public documents exhibit to us the balance sheets of the nation for the last ten years, in the combined results of its industry; and the condition of the country enables us to ascertain to which side of the profit and loss account the balance of our foreign commerce is to be carried. But, large as it is, this is now a matter of small concern in comparison to the coasting and internal trade, which has swelled to an amount beyond calculation; for who would compute

the extent of the fruits of that industry, which after supplying the demands of fifteen millions of people furnishes seven millions for exportation. It is in this great department that the rising greatness and glowing prospects of the country appear in dazzling brightness, while its foreign commerce, though buoyant on the full tide of successful pursuits, emits but the paler ray. Though in the sphere of its operations it takes a wider range, the amount of capital employed, of exchanges made, and profits earned, is less than in the purchase, exchange, and transportation of the raw materials and provisions of the south and west, and the manufactures of the eastern, middle, and western states.

Had this been predicted ten years ago, it would have been called the dream of an enthusiast; and so would an assertion that a Fair prepared with all the labors of the then Mercantile Society of this place, would within twenty years have been of the character of those which have now for the seventh time been opened under the auspices of the American Institute.

The most zealous friends of the American system have been astonished at its results. They had calculated on a steady uniform progress in all the business of the country, but were not prepared for this mighty expansion of all its resources. We had been led to expect, that our establishments could become matured only in the fulness of time, and that the fruition of our hopes might not be realized till the present generation had passed away. We had been so long in the habit of looking to Europe for the rules and course of trade, for the effects of the action of individuals and government on the industry of the country, that we had not been led to expect the accomplishment of our wishes at so early a period. The character of the American people seems to have been unknown to ourselves, or not to have been duly appreciated: slow to move in any new pursuit, ardent and persevering in the prosecution of all their undertakings, all experience had long taught us that they were rising in power as a nation, and happiness as men, yet the example of no people had ever shown that what was gained in power was not lost in time.

Judging from the scene which has been before our eyes, and the scene around us, as exhibiting the condition of the whole country, there seems to be an inventive creating spirit pervading all its works, which does not wait the slow and tedious march of time for its development. Whether it is in the air we breathe, or exists in the nature of our institutions and system of policy, there is something like the presiding genius of invention and improvement hovering around the useful acts of the nation, which impels them onward with giant growth.

The exhibitions of this Institute afford evidence that cannot err; each item attests the fact, that whenever government removes the foreign obstructions on the industry of the nation, and the people are left free from foreign control in its pursuits, their skill and perseverance changes the face of the country, by establishments which are completed, and whose productions are exhibited for our admiration before we are aware of their existence.

As the practical effect of a protecting system, these exhibitions speak a language which strikes deeper into the mind than argument or reason; when a question is to be solved by a theory, principle, or opinion, as to what has been, what is, or what will be, the result of any measure of government on the interests of society, public sentiment will remain divided till facts remove doubts, and silence discussion. Thousands who would never yield their preconceived opinions to human authority, have surrendered them to the conviction of the senses, and the force of the testimony of the articles exhibited at this Fair, which are the silent witnesses of the truth which is in them, and the dumb orators who have made more converts to the American system than proud man in the plenitude of human intelligence has done, by all the efforts of reason, the profundity of learning, or the charms of eloquence. It is mainly owing to these that opposition has been disarmed, ancient feuds turned to lasting friendship; and the great interests of the country, once thought to be rivals, if not hostile to each other, have now become so harmoniously connected in their effects upon each other and the whole country, as to carry it forward to the height of greatness with the velocity of a steamboat, moving in all the majesty of mechanical power.

And who that witnesses this community of interest, which unites all society by the chain of mutual support, would if he could dissolve it, by striking from it the mechanical and manufacturing links which connect the agricultural with the commercial, and force those who are engaged in their pursuits to resort to foreign agency to continue the connection between them. Complete success has attended the system which now unites all the departments of national industry; we ought to cling to it, not merely for the good it has effected, but the venerated sources from which it sprung. The great principles on which the American system is erected were asserted in the first dawns of the revolution; resistance to parliamentary taxation, and the encouragement of domestic manufactures, were the kindred emanations from the spirit of independence; but one sentiment prevailed with individuals, in town meetings, in county and provincial conventions, and in Congress, from their first assembling in 1774, till the establishment of the constitution. The first confederation between the colonies was an association drawn up in Congress in October 1774, and signed by all the members, in which "for themselves and the inhabitants of the colonies whom they represented, they firmly agreed and associated under the sacred ties of virtue, honor, and love of country, that, 'we will in our several stations encourage economy, frugality, and industry, and promote agriculture, arts, and the manufactures of this country, especially that of wool.'"

When the several colonies became independent states, and adopted the articles of confederation recommended by Congress, each retained and expressly reserved a right, which is the

basis of the American system of protection to agriculture, the arts, the manufactures, and commerce of the country, nay, its vital principle. The States deemed this right to be too precious to be delegated, and its exercise too indispensable to their means of happiness, to be entrusted to any body of men except the immediate representatives of the people.

The ninth article of confederation, which gave Congress power to enter into treaties, and alliances, provided, "that no treaty of commerce shall be made whereby the legislative power of the respective States shall be restrained from imposing such duties and imposts on foreigners as their own people are subjected to, or from prohibiting the exportation or importation of any species of goods or commodities whatsoever."

Nothing could so clearly denote the state of public opinion, as in this denial of a power to impose duties and imposts in the same instrument which delegated the powers of war, peace, and of forming alliances, without restriction. No rule of policy in our commercial intercourse with foreigners could so strongly manifest the determination to resist and counteract all foreign laws, which imposes burthens upon the people of the States; and no means devised whereby their industry could be so effectually protected from injurious foreign competition, as that pointed out—"Imposing such imposts and duties on foreigners as our own people are subjected to by them."

If this could have been done by the Congress of the confederation, the fruits of the revolution would have been sooner realised, but as the States would not act in concert in regulating commerce or imposing duties on imports, and Congress could not act, except by recommendations, the call for a new government became universal, and in the constitution which created it, there was a grant of all the powers necessary to effectuate the objects of its institution.

The first work of the new government was the establishment of an American system, in the spirit and on the principle of the revolution. It announced to the people the great outlines of its policy in the preamble to the first revenue law, by declaring that duties were laid on goods, wares and merchandise imported, for the support of government, for the discharge of the debts of the United States, and the encouragement and protection of manufactures. The provisions of this law develop, in strong light, the leading features of the system, in the duties imposed on the imported products of the land, the sea, and manufactures, and the heavy discrimination of duties between articles imported in American and foreign vessels.

But the protecting principle was more strongly developed in the act for imposing duties on tonnage, as a measure of countervailing policy against the operation of the British navigation laws; and by an unvarying course of legislation since, it has been carried to the full extent of imposing on foreigners the same duties to which our own navigation is subjected, and is relaxed only in favor of those nations whose navigating interest is protected by no discriminating duties between theirs and American shipping entering their ports.

This was in accordance with the great purposes of the constitution. In giving to Congress the power to regulate commerce, it was not intended that it should be left to regulate itself, still less to permit foreign nations to regulate it for themselves and us without counter-action. Nor when the States had parted with their power to impose such duties on imports, as other nations imposed on their exports, could Congress fulfil their obligations to the people by declining to execute this power for their protection. They were bound to exert it to any extent which the interest of the country required; at least, so far as either to coerce other nations to adopt the rule of reciprocity in trade and commercial regulations, or, if the attempt should be fruitless, to meet duty by duty, regulation by regulation, law by law.

No government can be faithful to the people who support it, that would be content with less—for it is the only means whereby their infant establishments of manufactures and navigation could be rescued from foreign control, or the country enjoy the benefits of its own resources. The happy effects of the course of the government, in its early operations, soon became visible in the successful pursuit of all those occupations which were embraced within its guardianship; in whatever branch of industry, there was a domestic capacity to supply the domestic demand, the competition among our own citizens prevented undue exaction.

The monopoly of the coasting trade, and the preference in the foreign, which our navigation acts gave to American vessels, was a benefit to the whole country; and so far as any article of manufacture was secured from foreign control, by protecting duties on imports, the same consequences were apparent; and had this protection been gradually expanded, according to the growing capacity of the country to supply, it is most confidently believed that public opinion would long since have been unanimous in its favor.

It was only necessary to follow up the original policy of the government, and to apply it from time to time to any item of the productions of domestic labor, which could be encouraged without a permanent burthen to the consumer. As the progress of the country developed the actual results of its legislation, and especially after the late war had, by the extinguishment of foreign commerce, forced the country into the necessity of manufacturing their own materials, and practically demonstrated its abundant capacity of a competent production, the return of peace was thought to be the time for a revision of our revenue laws and an extension of protection to many articles not before encouraged, by any other than an ordinary duty for revenue. The tariff of 1816 operated upon its protected articles with the same results as had been before apparent—in economy to the consumer, by the improved quality and diminished price of the domestic production. When the experience of more than thirty years, without an exception, had

practically shown this fact, a more general system of protection was adopted, after a most protracted and excited discussion: the tariff of 1824 was avowedly for the encouragement and protection of domestic manufactures, and that of 1828 still more decidedly so.

We are all witnesses of their effects; the tree and its fruits are before us—are they good or evil? The whole country has tasted of them, and they are not only goodly to the eye, but have proved to be healthful to the body politic.

There is no evidence that the consumer or exporter of domestic manufactures has used, sold, or exchanged them at a loss; if their materials, texture, quality, or appearance, is inferior to the imported article, or higher in price in the domestic market, than in the place of their production abroad, it is difficult to account for the admitted fact, that they command a foreign market. The exporter must pay the price in the home market, and being entitled to the benefit of a drawback on the foreign article, duties give no preference to the domestic; the purchaser is therefore governed only by the quality and price. In the foreign market, the foreign and the domestic articles are on neutral ground, where there is no protection to either, other than in those inducements to the purchaser which tend to his own interest. This fact alone must dissipate the illusion, that protecting duties are of course an addition to the price of an article in the domestic market, or a tax on the many for the benefit of a few.

Another fact, now evident in the course of trade, is equally convincing to show the small effect of duties upon the price of imported goods, whether they are articles of comfort, necessity, or luxury, food, or raiment, the product of agriculture or manufactures. The price of tea, coffee, worsted stuff and silk goods, has not fallen to the extent of the duties reduced or repealed; and it is believed that some articles have raised in price, and that none have declined in proportion to the reduced duties. (See Appendix.)

From these facts we may draw instructive lessons; they teach us that domestic competition is the only security against foreign exaction, and that when we are dependent on the foreign market exclusively for our supply, the price of the article will be regulated, not by the cost or value of the production, but the wants of the consumer. It is in facts alone that political truths can be found; they are the book of nature and of life, enabling us to trace the effects of systems of policy on the course and operation of trade and human industry in all the occupations of society. They are the elements of the practical science of government and politics, which test the wisdom of its measures by their effects on the community: the touchstone to which to apply theories, doctrines, or received principles, by which to decide whether they are the illusions of the imagination, or the steady rules which govern human action in the various pursuits of man. When facts speak, it is the voice of nature, and must be obeyed; facts are stubborn, unyielding, obstinate; reasoning is lost upon them; principles may be drawn from them, which are safe guides to individuals and nations, but the conduct of both must be without wisdom, reason, or correct results, whenever it is attempted to force theories into them, instead of extracting truth and principles from them.

Do we want to understand the science of political economy, in order to learn what is the strongest, safest, most permanent foundation of national prosperity, we look first to the frame of our government, next to its laws, and then to their effects as displayed throughout the country. If in all its movements we find the machinery impelling it to greatness, with a controlling moral influence abroad, and general happiness at home, the statesman can accomplish and the patriot can desire no more, and no citizen should risk what he enjoys, by wishing to disturb the social order around him.

In its legislation on the industry of the people, our government has followed the steps of its founders. In completing their work, it has been guided by the spirit which descended to them from the Congress of 1774; it has promoted agriculture, the arts, and the manufactures of this country. It has adopted and developed the great principle of policy, consecrated in the confederation, of imposing on foreigners the same imposts and duties as our people are subjected to; and thus and otherwise, in regulating commerce with foreign nations, and laying and collecting imposts and duties for the support of government, the payment of the debts of the country, and the protection and encouragement of domestic manufactures, effected the great objects, by executing the powers conferred by the constitution.

If human authority can give sanction to a system—if there have been any men whose opinions ought to be regarded as maxims, and whose principles and rules of action are entitled to respect, through all time,—they are those who signed the association of 1774, the confederation of 1781, who framed the constitution, and devised the American system of policy in 1789.

Till wiser and safer counsellors shall appear, to instruct us with sounder maxims, to impress upon us more practical truths, and give assurance that more public good will follow a change of policy, or an abandonment of a system, thus adopted and matured, than by adhering to it—the trodden path is the safest; laid out in wisdom and illumined by experience, it has been the road in which our country has made an onward progress to its present condition. It has not been without its alternations of prosperity and decline; but ultimate success has rewarded national industry in all employments, and the system by which it has been regulated has not only dissipated all the fears entertained by its adoption, but more than realised all the benefits anticipated by its most zealous advocates. As lately modified, this system does not consist in the rate of duty alone; its essence is in an efficient discrimination between the foreign and domestic product, so assessed, enforced, and paid, as to be an actual toll in our market, to the extent

of the duty ; and so apportioned, that whatever is paid into the treasury by imports shall be operative in the protection and encouragement of national industry.

A moderate duty, faithfully assessed and promptly paid, without evasion or fraud, is the most effectual protection ; after manufacturing establishments have acquired a maturity, the possession of the market at home, and produced a surplus for exportation, the duty ceases to operate to protect them, they can protect themselves,—if such duties remain as counteract the bounties, premiums, drawbacks, and other advantages which the regulations of foreign governments give to the exporters of their manufactures. If none should exist, and any assurance could be given, that combinations of foreign capitalists would not for a time fill our markets at a price below the cost, in order to break down the competition of our own manufacturers, and thus secure its permanent supply for the future at whatever price they may exact, the repeal of the duty on any article which can find a foreign market with a profit, or which by its quality and price has excluded the foreign article from ours, would be harmless in its effects.

But when the domestic market is in the possession of the foreigner, and while manufactures are in their infant state, the foreign article can be superseded only by such duties as will place the domestic in a position of competition, on equal terms, which counterbalances the advantages of possession and of foreign regulations.

In applying these views to the late modifications of the system, there is great reason to indulge the confident hope, that they will produce no injurious consequences ; on the contrary, much good may follow, if it is properly understood and duly appreciated. An exciting alarming subject of controversy has been put at rest, a distracting question of national policy has been settled in a spirit of compromise, by mutual concession ; the one party receding in the rate of duty, the other advancing in beneficial regulations, to secure the prompt payment ; and as in all compromises, both acting in good and mutual faith to carry its outlines into detail. As an established land-mark between neighbors by mutual consent, it will be respected by each as their own act ; as an amicable measure, it will conciliate and unite opinions heretofore in collision, and will be more calculated to ensure its own perpetuity, than if it had been passed by mere numbers or a majority however decisive.

This measure must not now be viewed, as it would have been, while the manufactures of the country were prostrated, though it might not have sufficed to sustain existing or to encourage the establishment of new ones, ten years ago ; yet it must be remembered, that after a long successful progress under the decisive protection of former laws, the present acts upon them in their healthy thriving condition. The capacity of the country to supply its consumption is now ascertained beyond all doubt, by the fact of the exportation of its manufactures in amounts annually increasing ; the dead point has been passed, the domestic article is in possession of the domestic market, and the foreign artisan must now struggle as hard to recover it as ours have done to oust them. Possession is as important in trade as in law, perhaps of the two the easiest to maintain, and the most difficult to divest ; and who that has looked upon these specimens of our domestic merchandize, which we have seen displayed at the Fair, and now command the domestic and foreign market, by the aid of past protection, can doubt their ability to maintain their possession with what is secured to them for the future. It is scarcely credible that the foreigner, who must pay on entry a double tythe, for the privilege of a market, can continue a profitable competition with our own citizens, who pay no toll ; who are protected by public policy, public opinion, and by laws which inflict heavy penalties for evasions, and forfeitures for frauds. If the efficiency of the protecting system has been impaired by the reduction of the duties on imports, it has been greatly strengthened by the reduction of credits ; their extension was a crying evil in the former laws, which called loudly for the change, and having been repealed leaves the protection efficient. After an anxious consideration of the existing system in its general provisions, and great outlines, a confident belief is entertained, that in the then existing state of the nation, of public opinion, and the manufacturing interest of the country, it was a measure of wise and sound policy, conducive to the public peace, the harmony of the national councils, and not injurious to its prosperity in the aggregate or any of its great constituent powers.

In relation to that branch of national industry in which you, Mr. President, the Members of this Institute, and your associates in their respective stations in public and private life, have felt the liveliest interest, not because it more deserved, but more needed national protection, my settled conviction has been, and is, that the compromising bill is a salutary one ; that it was happily timed ; and that if it had not been passed, there was strong reason for the most alarming apprehension for the safety of the manufacturing interest at the ensuing session. The times were excited, an angry spirit was abroad, the protection of manufactures by discriminating duties had become not merely a party question, but one attended with most dangerous consequences to the peace and interest of the nation. It had become a local one ; one section of the country seemed in array against the other, and every indication pointed to the disastrous effects of a protracted discussion. It was accepted in the spirit of peace and conciliation, which for a time seemed to have disappeared, but came at the appointed hour, with healing in its wings ; the storm was allayed, harmony once more pervaded the halls of legislation, and local excitement ceased,—it is most devoutly to be hoped, forever.

So far as its consequences have been developed, they seem to have made no impression of an unfavorable kind on the operations of industry ; whether other causes have operated injuriously,

can be no subject of inquiry on this occasion, nor can it be ascertained till the balance sheet of the current year shall be exhibited by the treasury, showing the kind and amount of exports. On the first promulgation of the measure, it was feared by many that the protective principle had been abandoned. But these fears are not justified by its provisions; the reduction of duties is gradual, spread over nine years, it can cause no sudden revulsion; it operates on established successful manufactures, which afford every prospect of attaining a foundation too solid to be affected by foreign competition before the reduction is completed. The permanent duty is not nominal; twenty per cent. is a high toll to pay, for the privilege of even competition in our market. Duties are no longer a loan and bounty to the foreign manufacturer; their prompt payment is an effectual tax upon him, not, as before, the means of accumulating his capital by a credit for which he paid no interest.

In contrasting therefore the present with former laws, there seems no good cause for alarm to that class of society who have the most direct and immediate interest in its operation, and there are many circumstances which gives to it a character most cheering. Public opinion is now more happily united than it has been at any former period; the protecting system as modified is now permitted to take its course; the temper of the times has changed; the storm which agitated the country has ceased; the policy of protecting domestic manufactures is no longer a subject of contention on the political battle ground; and rival candidates and their partisans have become contented to make their appeal for public support on other subjects. This question has been settled, not only by wise legislation, but the illustrations of experience and the testimony of facts; a victory has been achieved for the country and its most precious interests, yet it has not been the victory of a party which has left a sting or wound to rankle in the breast of the vanquished.

The tendency and effects of the present state of the country were pointed out by a distinguished patriot* more than seventy years ago, if not in the spirit of prophecy, at least in the full assurance, that the happiest condition of a people is that in which their different occupations are connected together, and united in one common pursuit, with no other rival feeling between those engaged in the various employments of life, than which shall effect the most for the good of all:

"The tradesman and the husbandman would do well to consider, that when they are for cramping trade, they are for killing a faithful servant who is toiling day and night, and eating the bread of care for their sake as well as his own. The merchant and the gentleman would do well to reflect, that the hand of the tradesman and husbandman are their employers, and that unless they increase and multiply in their commodities and riches, the merchant will never flourish. The merchant, the tradesman, and freeholder, should consider themselves as the most immediate and natural brothers in the community; that God and nature have made their interests inseparable; and when they will agree conjointly, no mortal hand can ever prevail against them."

APPENDIX.

A.

Extracts from Questions addressed to the Mercantile Society of the city of New-York, in 1821, by the Committee on Manufactures, from the Congress of the United States, with the Answers of the Society—showing the effect of protecting duties on the prices and quality of goods, and also on commerce and the production of the raw material in this country.

QUESTION 8th.—State the prices of the following articles in 1811, or any other year or years before the war, which will present a fair average of their price in the years of a flourishing commerce: Coarse Cottons, Umbrellas, Nails, Gunpowder, Playing Cards, Carriages, Cabinet Wares, Wafers, Hats, Boots and Shoes, and any other manufactured articles which were formerly imported, but are now in a great measure, if not wholly, made in the United States,—the relative quality of the imported and domestic articles?

ANSWER.—Common coarse Cottons, such as are manufactured in the United States, may be fairly stated to be 50 per cent. lower than in 1811, and are much superior to the piece goods of similar description from Calcutta.

Cabinet Wares are greatly superior, and full 25 per cent. lower.

Gunpowder, - do. do. - - 25 to 50 do.

Umbrellas, - do. do. - - 33½ " do.

Carriages, - do. do. - - 50 " do.

Hats, - do. do. - - 25 " do.

Boots and Shoes, do. do. - - 20 " do.

Silver Ware is now made in this country as cheap as in London, and is 12½ per cent. lower than in 1811.

* James Otis.

QUESTION 9th.—Where the domestic has superseded the foreign supply of our market, state the general effect it has produced, as to price and quality; and whether it has resulted in the benefit or injury of the consumer?

ANSWER 9th.—As far as our own information has given us an opportunity of judging, the consumer is supplied with a better article for the same price; it is particularly so with Coarse Cottons, Hats, Boots and Shoes, Cabinet Wares, Carriages, Fancy Chairs, Looking Glass and Picture Frames, Silver Plate, Andirons, brass head Shovel and Tongs, Grates for burning coal, Gold Leaf, Woollen Satinets, Cut Nails, Fancy Mock Tortoise Shell, and fine Ivory Combs, Rifle Guns, Cut Tacks and Brads, and Tin Wares.

QUESTION 10th.—Taking the article of Cotton as an example, and supposing coarse Cotton goods are excluded, have the effects been injurious to commerce? Is there as much tonnage; are there as many seamen employed in the transportation of the raw material and the manufactured article coastwise, as there would be in the importation of the foreign manufacture and the exportation of as much cotton as would make the goods we import from Europe? If more or less, state the difference.

ANSWER 10th.—The exportation of the raw material to Europe, and the importation of the article when manufactured, would give employment to a greater number of seamen, and more tons of shipping, than the transportation of the same raw materials and manufactured articles coastwise. So far as relates to a prohibition of India Cottons (manufactured), our commerce has no doubt been benefitted, because it could only be employed in bringing an article manufactured from a raw material of foreign growth; whereas the raw material of which the substitute is made, as well as the manufactured article, are both transported coastwise, and give employment to more shipping and a greater number of seamen than the importation of India manufactured Cottons could possibly do. It would take five cargoes of unmanufactured Cotton to make one of manufactured goods.

QUESTION 12th.—Does the consumption of Cotton in the American manufactories diminish the price of what is exported to Europe; in other words, are, or can, the fruits of Cotton manufactories be injurious to those who raise the article?

ANSWER 12th.—The consumption of cotton at home increases the price to the growers; the demand in this market for home consumption is generally considered to keep the price from one to two cents per pound higher than it would otherwise be.

QUESTION 15th.—State your opinion of the probable operation of this bill on commerce; if injurious, point out specifically the objections. Would it decrease our tonnage, or number of seamen? Would it diminish the price of any of our articles of export—if so, state what? Is the price of these articles, and their demand abroad, regulated by the wants of other nations, or by the amount of manufactures we receive in exchange? State not only your opinion, but experience, and the information of others, that is to be relied upon, if no general revision of the tariff should be proposed.

ANSWER 15th.—We think generally it will not be prejudicial to commerce; it would not diminish the value of any article of domestic produce exported; the price of our articles abroad, and the demand for them, is regulated by the wants of other nations, and not by what we in return receive from them.

B.

A TABLE showing that a reduction of Duties on *Coal, Salt, Coffee, and Molasses*, has not effected a reduction of prices on those articles.

Decem- ber 1.	Coal per chaldron.		Salt per bushel.		Coffee per pound.		Molasses per gallon.	
	Price.	Duty.	Price.	Duty.	Price.	Duty.	Price.	Duty.
1815	\$23 00	\$3 60	90 cts.	20 cts.	25 cts.	10 cts.	70 cts.	10 cts.
1816	14 00	1 80	60	20	21	5	50	5
1817	11 00	1 80	60	20	24	5	60	5
1818	11 00	1 80	70	20	30	5	53	5
1819	14 00	1 80	70	20	24	5	40	5
1820		1 80	62	20	29	5	30	5
1821	14 00	1 80	60	20	28	5	33	5
1822		1 80	60	20	25	5	33	5
1823	12 75	1 80	52	20	20	5	26	5
1824	15 00	2 16	50	20	17	5	28	5
1825	14 00	2 16	58	20	16	5	33	5
1826	10 00	2 16	49	20	15	5	30	5
1827	13 00	2 16	62	20	14½	5	33	5
1828	13 00	2 16	52	20	13	5	24	10
1829	11 00	2 16	45	20	12½	5	25	10
1830	8 00	2 16	55	20	12	5	30	10
1831	13 00	2 16	62	15	12½	2	30	5

C.

COMPARATIVE STATEMENT OF PRICES of sundry articles which are now admitted into the United States free of duty: showing the prices before and since the repeal of the duties thereon.

	October 1, 1830.		October 1, 1834.	
	Price.	Duty.	Price.	Duty.
Tea, (hys.) per lb.	\$1,12½	\$0,87½	\$0,42	Free.
Coffee, - - -	11	5	10½	"
Currants, - - -	9	3	4	"
Prunes, - - -	14	4	5	"
Figs, - - -	6½	3	3	"
Nutmegs, - - -	1,35	60	1,25	"
Cassia, - - -	18	6	11½	"
Cloves, - - -	45	25	19	"
Pepper, - - -	14	8	7	"
Ginger, - - -	8	2	5½	"
Camphor, - - -	45	12	45	"
Indigo, - - -	1,62	30	1,60	"
Raisins, bloom, box,	2,25	4	1,25	"

D.

A TABLE showing the prices of Cotton and Coarse Cotton Goods in the city of New-York for a series of years:

Years.	Upland Cotton.	Bro. Cot. Shirtings.
April, 1815,	20 cents per lb.	25 cents per yd.
" 1816,	28 " "	21 " "
" 1817,	23½ " "	21 " "
" 1818,	32 " "	21 " "
" 1819,	26 " "	19 " "
" 1820,	16 " "	12½ " "
" 1821,	13½ " "	12½ " "
" 1822,	15½ " "	13 " "
" 1823,	10½ " "	11 " "
" 1824,	14 " "	10 " "
" 1825,	19 " "	10 " "
" 1826,	11 " "	9 " "
" 1827,	9½ " "	9½ " "
" 1828,	10 " "	9 " "
" 1829,	10 " "	7½ " "
" 1830,	9½ " "	7 " "
" 1831,	9 " "	7½ " "
" 1832,	9 " "	7 " "
" 1833,	10½ " "	7 " "
" 1834,	11 " "	6½ " "

N. B.—One pound of cotton makes four yards of the above goods.

E.

A TABLE shewing the total value of sundry articles of American manufacture exported to foreign countries in the year ending September 30, 1833, with the protective duty on each article:

Manufacture.	Amount Exported.	Protective Duty in 1832.
Cotton Goods, - - -	\$2,532,517—average 80 per ct.	
Flax and Hemp, - - -	24,949	25 "
Wearing Apparel, - - -	43,943	50 "
Combs and Buttons, - - -	142,970—average 25	"
Umbrellas and Parasols, - - -	21,380	25 "
Glass, - - -	93,494—average 30	"
Printing Presses and Type, - - -	16,599	25 "
Books and Maps, - - -	48,946	30 "
Paper and other Stationary, - - -	46,484	60 "
Leather & Boots & Shoes, - - -	251,777	30 "
Household Furniture, - - -	200,635	25 "
Coaches & other Carriages, - - -	28,830	30 "
Hats, - - -	243,271	30 "
Saddlery, - - -	33,051	30 "
Snuff and Tobacco, - - -	288,973	50 "
Iron—Castings, - - -	48,009—average 50	"
" —Pig, Bar, and Nails, - - -	72,177	75 "
" —Manufactures of, - - -	113,626	25 "

Manufacture.	Amount Exported.	Protective Duty in 1832.
Spirits from grain, &c. -	144,069	150 per ct.
Earthen and Stone Ware, -	12,159	20 "
Cordage, - - -	23,140	40 "
Sugar, refined, - - -	40,327	100 "
Gunpowder, - - -	139,164	30 "
Copper and Brass, - - -	203,880	25 "
Soap and Tallow Candles, -	673,076	60 "

The total amount of American Manufactures exported in the above year was - - - \$6,923,922

F.

The amount of domestic manufactures exported in 1823, not including uncertain articles, was..... 2,357,000

Amount in 1833, excluding coin and articles not enumerated, was..... 5,956,000

Difference in favor of the latter year..... 3,599,000

In 1823, the exports of manufactures of iron were only..... 97,000—In 1833 they were 233,000

Hats..... 115,000— " " 243,000

Snuff, tobacco, - - -

Linseed oil, &c. .. 175,000— " " 313,000

Gunpowder..... 66,000— " " 139,000

Brass & copper... 16,000— " " 203,000

Medicinal drugs .. 74,000— " " 126,000

543,000 1,317,000

The following articles are not in the list of exports in 1823. In 1833, there was exported:

Manufactures of cotton..... 2,532,000

Combs and buttons..... 142,000

Wearing apparel..... 43,000

Books, maps, paper and stationary, 94,000

Manufactures of glass..... 93,000

Other articles, amounting to..... 215,000

3,219,000

In 1823, the imports of hats, caps, and bonnets, deducting

exportations, were..... \$802,000

Hats of domestic manufacture exported..... 115,000

Balance of imports over exports..... 687,000

In 1833, the imports of leghorn hats, &c., were, deducting

the exportation..... 116,000

Domestic hats exported..... 243,000

Balance of exports over imports..... 127,000

In 1833, the imports of manufactures of copper and

brass were..... 351,000

Domestic articles exported..... 16,000

Balance of imports..... 335,000

In 1833, the imports were..... 403,000

Domestic articles exported..... 203,000

Balance of imports..... 200,000

G.

In 1823, the amount of cotton goods imported

was..... \$8,867,000

Of which were exported..... 2,641,000

Consumed in the United States..... 6,226,000

No domestic cotton goods were exported this year.

In 1833, the amount of importations was.... 7,658,000

Of which were exported..... 2,404,000

Consumed in the United States..... 5,254,000

Domestic cottons exported..... 2,532,000

Balance of the exports and imports of this year 2,722,000

Less than 1823 by 6,226,000—2,722,000= 3,504,000.

In 1823, the imports of white cottons amount-

ed to..... 2,636,000

Of which were exported..... 520,000

Cotsumed in the United States..... 2,116,000

In 1833, the amount of importations was.....	1,181,000
Of which were exported.....	710,000
Consumed in the United States.....	471,000
Domestic white cottons exported.....	1,802,000
Balance of exports and imports in favor of the United States.....	1,331,000
Difference between the two years on this article.....	\$3,447,000
In 1823, the imports of cotton goods from the British East Indies was, printed and colored 331,000, white 229,000.....	\$560,000
In 1833, printed and colored 43,000, white 2,580.....	45,580
Difference between the two years.....	\$514,420
In 1833, there was exported to the British East Indies, of white domestic cottons 36,000, being 33,420 over the imports.	
In the same year, there was exported of the same article to other English Colonies, 28,000. To the Dutch East Indies, 26,000.	
Cotton goods exported to China in this year amounted to.....	\$216,000
The importations of cotton goods from China was 8,000, nankeens 30,000.....	38,000
Balance of exports and imports of this year on cotton in favor of the United States.....	\$178,000
In 1823, nankeens imported from China amounted to.....	595,000
In 1833, the amount of domestic manufactures exported to the dominions of Great Britain was..	\$444,000

H.

The amount of cotton goods manufactured annually at Lowell is 37,504,000 yards. Value, \$4,500,000.

Cotton consumed, 33,058 bales, or 11,600,000 pounds.
The amount of printed cottons exported from Providence, of the manufactories within 30 miles, is \$4,000,000
Add the cotton manufactures of Lowell, - 4,500,000
8,500,000
The whole amount of imported cottons consumed in the United States in 1833,..... 5,254,000

Excess of the domestic article manufactured at and near these two places,..... 3,246,000

Estimating the consumption of cotton at Lowell to be one-sixth of the whole domestic consumption, the number of yards manufactured in the U. S. is 225,024,000. Value, \$27,000,000.

The relative amount of the domestic and foreign manufactures consumed in the United States will be found vastly disproportionate by referring to the population. By the census of 1830 it amounted to 12,856,000: of which 2,000,000 were slaves.

In 1833 the imports of woollen cloths and cassimeres, deducting exportations, was \$5,580,000; cottons, \$5,254,000; aggregate, \$11,054,000.

This is about 87 cents for each individual; and for each slave, \$5.57, which is a low estimate for the woollen and cotton clothing consumed by slaves annually.

It may, therefore, be safely estimated that the domestic manufactures of wool and cotton are equal in amount to the consumption of those articles by the whole free population of the United States, which is now from 12,000,000 to 12,500,000, allowing an increase of from 1,000,000 to 1,500,000.

Assuming at \$11,054,000, the consumption of imported woollen and cotton cloth is \$1 to each. The amount of the consumption of these articles by each individual beyond this sum, multiplied by 11,000,000, shows the excess of the domestic manufacture.

Assuming the consumption of each freeman to be double that of a slave, say \$11.14, the whole domestic consumption would amount to \$122,648,000.

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